WHAT IS CLAIMED IS:

1. A beam splitting system for splitting a light beam from a light source into two light beams with different polarization modes, the beam splitting system comprising:

a half-wave plate module for converting the light beam into a polarized light beam with pre-determined polarization after the light beam passes through the half-wave plate module; and

a polarization beam splitting prism for splitting the polarized light beam into a first polarized light beam and a second polarized light beam.

2. The beam splitting system as recited in claim 1, wherein the half-wave plate module comprises a half-wave plate as to enable the light beam to be polarized with a pre-determined polarization direction.

3. The beam splitting system as recited in claim 2, wherein the half-wave plate module comprises a rotatable base as to carry the half-wave plate such

that the half-wave plate rotates around a pre-determined position as to enable the light beam to pass through the half-wave plate and be polarized with the pre-determined polarization direction.

4. The beam splitting system as recited in claim 1, wherein the first polarized light beam has a horizontal polarization mode.

5. The beam splitting system as recited in claim 1, wherein the second polarized light beam has a vertical polarization mode.

6. The beam splitting system as recited in claim 1, wherein the light source is a UV light source and the light beam is a UV light beam.

7. An exposure system for forming a grating on a photosensitive fiber, the exposure system comprising:

a light source, for generating a light beam;

a half-wave plate module for converting the light beam into a polarized light beam with pre-determined polarization after the light beam passes through the half-wave plate module;

a polarization beam splitting prism for splitting the polarized light beam into a first polarized light beam and a second polarized light beam;

a reflection module, enabling the first polarized light beam to irradiate on a pre-determined position in the photosensitive fiber after it is reflected in the reflection module; and

an exposure module, enabling the second polarized light beam to irradiate on the pre-determined position as to form the grating;

wherein the first polarized light beam and the second polarized light beam have the same optical loss during the optical paths between the polarization beam splitting prism and the pre-determined position in the photosensitive fiber so that the photosensitive fiber is exposed to the first polarized light beam and the second polarized light beam that have the same total intensity across a whole grating length..

8. The exposure system as recited in claim 7, wherein the half-wave plate module comprises a half-wave

plate as to enable the light beam to be polarized with a pre-determined polarization direction.

9. The exposure system as recited in claim 8, wherein the half-wave plate module comprises a rotatable base as to carry the half-wave plate such that the half-wave plate rotates around a pre-determined position as to enable the light beam to pass through the half-wave plate and be polarized with the pre-determined polarization direction.

10. The exposure system as recited in claim 7, wherein the first polarized light beam has a horizontal polarization mode and the second polarized light beam has a vertical polarization mode.

11. The exposure system as recited in claim 7, wherein the light source is a UV light source and the light beam is a UV light beam.

12. The exposure system as recited in claim 7, wherein the exposure module is a phase mask so that the grating is formed in the photosensitive fiber by exposing the photosensitive fiber to the second polarized light beam.

13. The exposure system as recited in claim 12,

wherein the first polarized light beam, after being reflected by the reflection module, causes the variation of refractive index of the photosensitive fiber without forming the grating.

14. The exposure system as recited in claim 13, wherein the photosensitive fiber and the phase mask are installed on a movable base so that the photosensitive fiber is continuously exposed.

15. The exposure system as recited in claim 7, wherein the exposure module is a two-beam interferometer so that the grating is formed in the photosensitive fiber by exposing the photosensitive fiber to the second polarized light beam.

16. The exposure system as recited in claim 15, wherein the first polarized light beam, after being reflected by the reflection module, causes the variation of refractive index of the photosensitive fiber without forming the grating.

17. The exposure system as recited in claim 16, wherein the photosensitive fiber is installed on a movable base so that the photosensitive fiber is continuously exposed.

18. An exposure method for forming a grating on a photosensitive fiber, the exposure method comprising steps of:

providing a light source, for generating a light beam;

providing a half-wave plate module for converting the light beam into a polarized light beam with pre-determined polarization after the light beam passes through the half-wave plate module;

providing a polarization beam splitting prism for splitting the polarized light beam into a first polarized light beam and a second polarized light beam;

providing a reflection module, enabling the first polarized light beam to irradiate on a pre-determined position in the photosensitive fiber after it is reflected in the reflection module; and

providing an exposure module, enabling the second polarized light beam to irradiate on the pre-determined position as to form the grating;

wherein the first polarized light beam and the second polarized light beam have the same optical loss during the optical paths between the polarization beam splitting prism and the pre-determined position in the photosensitive fiber so that the photosensitive fiber is exposed to the first polarized light beam and the second polarized light beam that have the same total intensity across a whole grating length.

19. The exposure method as recited in claim 18, wherein the half-wave plate module comprises a half-wave plate as to enable the light beam to be polarized with a pre-determined polarization direction.

20. The exposure method as recited in claim 19, wherein the half-wave plate module comprises a rotatable base as to carry the half-wave plate such that the half-wave plate rotates around a pre-determined position as to enable the light beam to pass through the half-wave plate and be polarized with the pre-determined polarization direction.

21. The exposure method as recited in claim 18,

wherein the first polarized light beam has a horizontal polarization mode and the second polarized light beam has a vertical polarization mode.

22. The exposure method as recited in claim 18, wherein the light source is a UV light source and the light beam is a UV light beam.

23. The exposure method as recited in claim 18, wherein the exposure module is a phase mask so that the grating is formed in the photosensitive fiber by exposing the photosensitive fiber to the second polarized light beam.

24. The exposure method as recited in claim 23, wherein the first polarized light beam, after being reflected by the reflection module, causes the variation of refractive index of the photosensitive fiber without forming the grating.

25. The exposure method as recited in claim 24, wherein the photosensitive fiber and the phase mask are installed on a movable base so that the photosensitive fiber is continuously exposed.

26. The exposure method as recited in claim 18,

wherein the exposure module is a two-beam interferometer so that the grating is formed in the photosensitive fiber by exposing the photosensitive fiber to the second polarized light beam.

27. The exposure method as recited in claim 26, wherein the first polarized light beam, after being reflected by the reflection module, causes the variation of refractive index of the photosensitive fiber without forming the grating.

28. The exposure method as recited in claim 27, wherein the photosensitive fiber is installed on a movable base so that the photosensitive fiber is continuously exposed.